



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,119	01/03/2005	Kei Ishii	0946-0125PUS1	9687

2292 7590 06/12/2008
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MAI, NGOCLAN THI

ART UNIT	PAPER NUMBER
----------	--------------

1793

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

06/12/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/520,119	Applicant(s) ISHII ET AL.	
	Examiner NGOCLAN T. MAI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/12/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/1/08 has been entered.

Status of Claims

2. Claims 1-2, 5-10 are currently under examination, wherein claims 1-2 and 6 are amended in applicant's amendment filed on 4/1/08 and claims 7-10 are newly added in the same amendment.

Claim Objections

3. Claims 2 and 8 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims do not contain any limitation that further limits the parent claims.

Double Patenting

4. Applicant is advised that should claims 2 and 5 found allowable, claims 8 and 9 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing,

Art Unit: 1793

despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no disclosure in the specification "the content of polytetrafluoroethylene is three-fourth or less relative to said mixture of iron powder and resin powder" as recited in the instant claim.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 5, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 9 recite the resin powder is a mixture of both thermoplastic polyimide powder and polytetrafluoroethylene powder whereas claim 1 from which the claims are

depended recites the mixture of both thermosetting polyimide powder and polytetrafluoroethylene powder. Claims 5 and 9 therefore contradict the parent claim.

Claim 10 recites the limitation "mixture of resin powder" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-2, 6-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oliver et al. (U.S. Patent No. 5,767,426) in view of Uenosono (US 2002/0029657) and Horie et al. (U.S. Patent No. 4,543,208).

Oliver et al discloses a magnetic core and method of making, wherein the method comprises forming an iron-based powder composition comprising an admixture of (1) iron-based particles, (2) particles of a thermoplastic material and (3) a particulate fluorine resin such as polytetrafluoroethylene; subjecting the thus formed mixture to compaction with a compacting die (column 3, lines 24-30 and column 7, lines 31-7, lines 42-43); and heat treating the compacted product (column 8, lines 11-32). Oliver et al also teaches the followings: coating the iron-based particles with an insulative inorganic material such as iron phosphate (column 7, lines 28-30) and employing compacting die, whose wall surface is coated with a lubricant (column 7, lines 42-43). For the thermoplastic material Oliver et al teaches any

polymeric material that acts as an insulator and can be sufficiently softened upon compaction so as to adhere or bond to the surfaces of the iron-based particles can be used, column 5, lines 7-12. The polymeric material taught can be polyetherimide, polyphenylene ethers, **polyethersulfones**, **polycarbonates**, polyethylene glycols, polyvinyl acetates and polyvinyl alcohol (column 5, lines 17-24). Oliver et al teaches the thermoplastic constitutes about 0.001 to about 15% by weight of the total weight of the iron-based particles and the thermoplastic material and the fluoroc resin constitutes about 0.001 to about 2.0% by weight of the total weight of the iron-based particles and the thermoplastic material. See column 4, lines 9-16.

Oliver et al differs from the claims in that there is no teaching (a) the iron-based particle being composed of atomized iron powder and reduced iron powder in the amount as claimed and (b) thermosetting polyimide.

Regarding the difference (a) above, Uenosono teaches utilizing iron-based powder comprising an appropriate amount of reduced iron powder to atomized iron powder as a main component remarkably improves the die filling property [0024]. Uenosono teaches utilizing iron-based powder comprises 10% to about 40% of a reduced iron powder on a mass % basis, based on the entire amount of the iron-based powder and as a result the die filling property can be improved remarkably without greatly lowering the compressibility, [0028].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilizing as the core component of Oliver iron based powder comprising atomized iron powder and reduced iron powder in the amounts as claimed because using such combination of iron powders improves die filling property as taught by Uenosono.

Regarding the difference (b) above, Horie et al teaches in the same field of endeavor discloses insulating binder resin can be thermosetting and thermoplastic resin such as epoxy resins, polyamide resin, polyimide resin, polyester resins, **polycarbonate** resins, polyacetal resins, **polysulfone** resins, polyphenylene oxide resins and the like. See column 3, lines 51-65.

Because Oliver et al and Horie et al both teach thermosetting or thermoplastic resin can be used to insulate and bind iron-based metal particles together, it would have been obvious to one of skill in the art to substitute thermosetting resins for the thermoplastic resin of Oliver et al in order insulating and binding iron-based powder. The claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

While Oliver et al in view of Horie does not teach the exact type of insulating binder, however one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the thermosetting taught by Horie overlap the instantly claimed thermosetting and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference. See MPEP 2144.05.

Since the amounts of polymeric material and fluorine resin overlap those of the applicant, it would have been obvious to one of ordinary skill in the art to select any portion of range, including the claimed range, from the broader range disclosed in a prior art reference because the prior art reference finds that the amount of polymeric material and fluorine resin in the entire

disclosed ranges can be used to impart good flow properties to the composition and provide excellent lubricity. -- Note: Even if a reference teaches a preferred range within a broader range, it still does not "teach away" from the claimed invention. See MPEP 2123.

Response to Arguments

11. Applicant's arguments filed 4/01/08 have been fully considered but they are not persuasive. Applicant essentially argues that the disclosures of the cited references when combined suggest at most only a combination based on thermoplastic polyetherimide and PTFE is no convincing. See explanation above.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGOCLAN T. MAI whose telephone number is (571)272-1246. The examiner can normally be reached on 8:30-5:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

n.m.